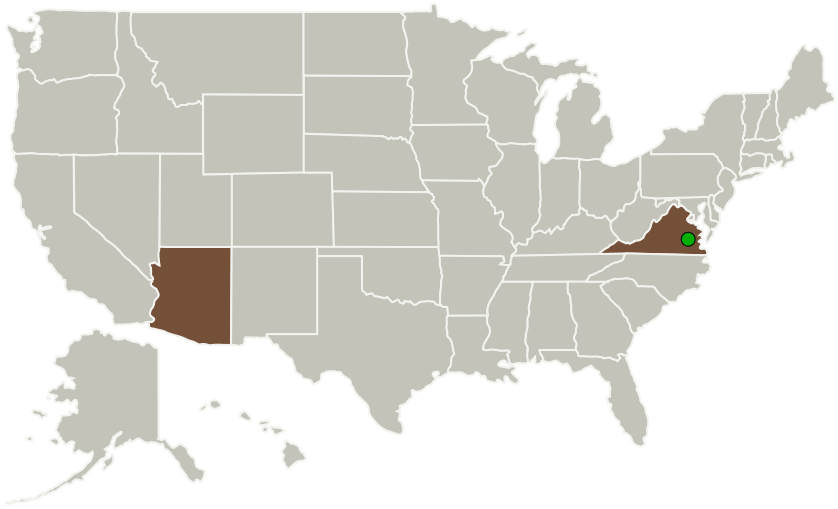
# 1.55 Micron High Peak Power Fiber Amplifier, Phase I

Completed Technology Project (2012 - 2012)

## Project Introduction

In this proposal, we propose to demonstrate and build a 1.55 micron single frequency high energy and high peak power fiber amplifier by developing an innovative Er-doped gain fiber with large core diameter and high gain per unit length. 1.55 micron single frequency high energy and high peak power fiber amplifier is needed for coherent lidar and sensing. In Phase I, we will design and fabricate this new fiber, demonstrate high gain per unit length and high efficiency, and demonstrate high energy and high peak power fiber amplifier with a short piece of gain fiber. Successful demonstration of such a fiber amplifier will enable many new NASA and commercial applications.

## Primary U.S. Work Locations and Key Partners



| Organizations Performing Work | Role | Type | Location |
|---|---|---|---|
| AdValue Photonics, Inc. | Lead Organization | Industry<br>Small Disadvantaged Business (SDB) | Tucson, Arizona |
| Langley Research Center(LaRC) | Supporting Organization | NASA Center | Hampton, Virginia |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| Primary U.S. Work Locations | |
|---|---|
| Arizona | Virginia |

## Project Transitions

**February 2012:** Project Start

**August 2012:** Closed out

**Closeout Documentation:**

- Final Summary Chart*(https://techport.nasa.gov/file/140273)*

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Organization:**

AdValue Photonics, Inc.

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Principal Investigator:**

Shibin S Jiang

**Co-Investigator:**

Shibin Jiang

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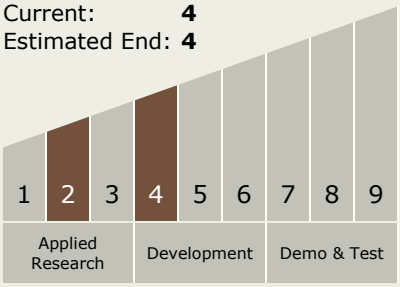
## Technology Maturity (TRL)

Start: **2**
Current: **4**
Estimated End: **4**




## Technology Areas

**Primary:**

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System